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2,364,982

LOOM HARNESS

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2 Sheets-Sheet 1

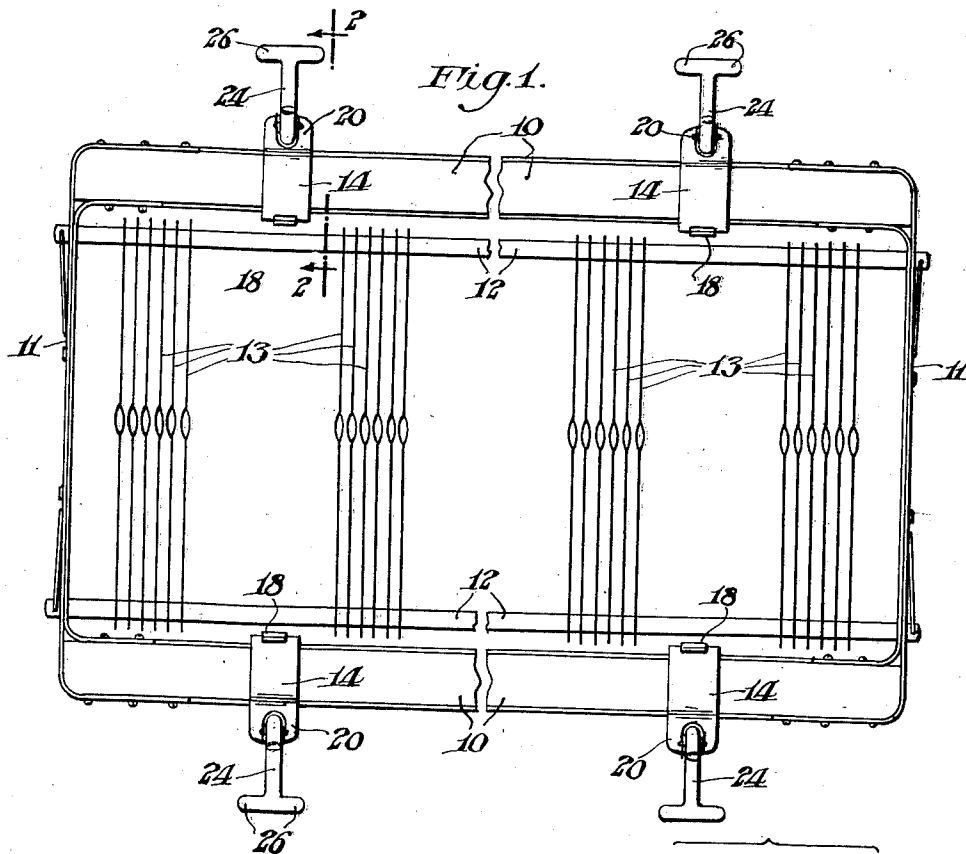


Fig. 2.

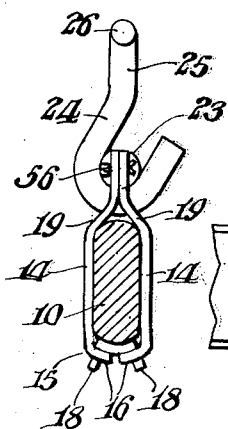
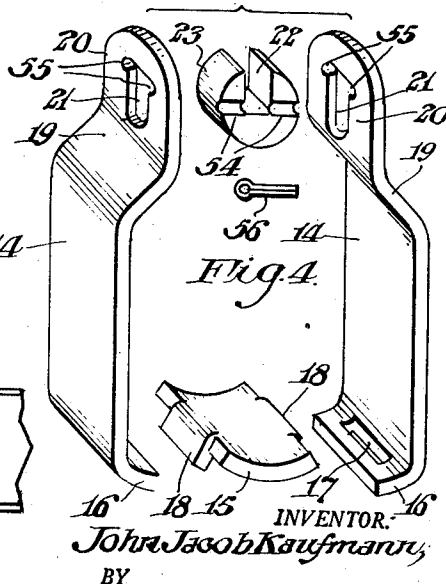
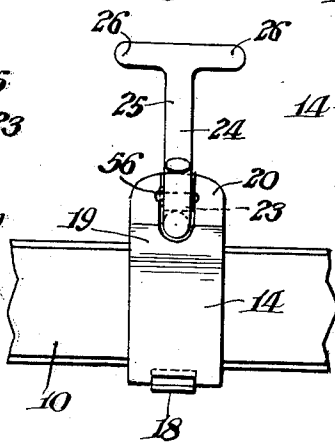


Fig. 3.



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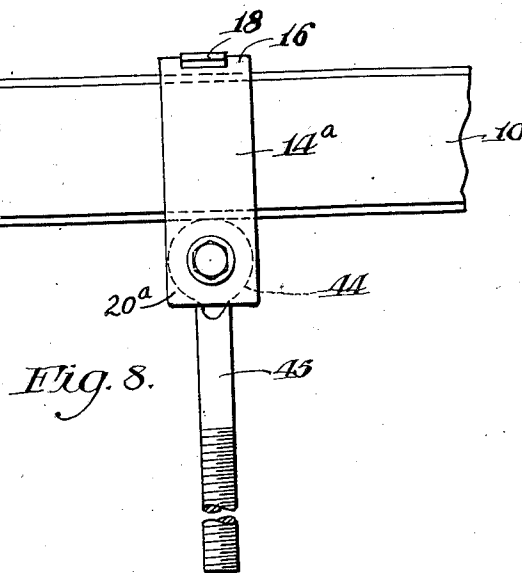
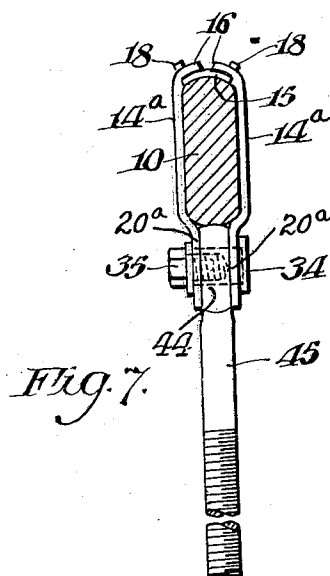
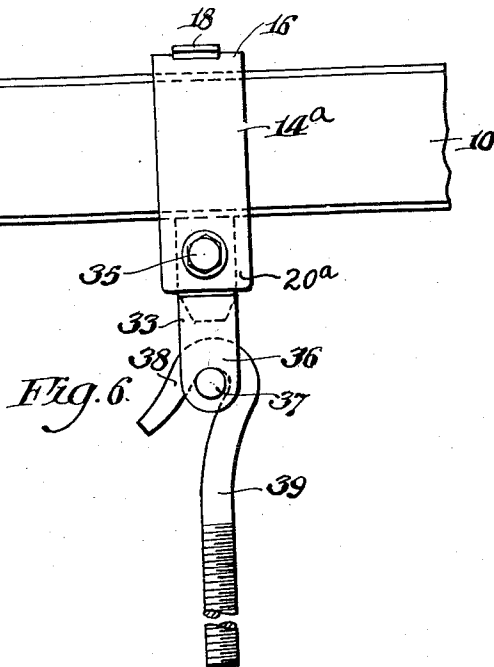
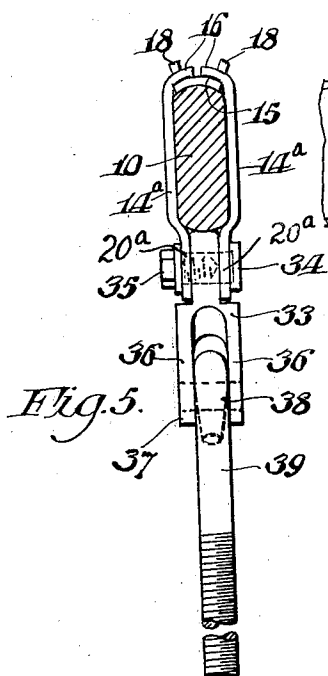
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LOOM HARNESS

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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LOOM HARNESS

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Application October 30, 1943, Serial No. 508,318

8 Claims. (Cl. 139—92)

This invention relates to loom harness, and more particularly it relates to improved means for connecting the harness actuating devices to the heddle frames of looms.

Heretofore, various forms of attaching devices have been devised for use in connecting the loom harness actuators to the heddle frames. One form of such devices, which functioned reasonably well, was shown in my previous Letters Patent No. 2,010,786, dated August 6, 1935, which included in its structure a rail embracing member made of unitary strap, to which member another member was connected for securing the straps, cords or other actuating devices thereto.

However, such devices were open to the objection that, in order to remove the same from the harness frame, it was usually necessary preliminarily to remove the heddle supporting rods from the frame, as otherwise the strap members could not be disengaged from the rails of the heddle frame.

The principal object of the present invention is to provide an improved form of attaching device which is so constructed and arranged that the same may be readily and expeditiously removed from the rail of the harness frame, and this without dismantling the heddle supporting rods from the frame.

A further object of the invention is to provide a device of the character aforesaid which is so constructed and arranged that wear on the heddle frame, and in the various parts of the structure, etc. will be reduced to a minimum notwithstanding the repeated and violent shocks and stresses to which such devices are subjected in use.

The nature and characteristic features of the present invention will be more readily understood from the following description, taken in connection with the accompanying drawings forming part hereof, in which:

Figure 1 is a front elevation of a loom harness frame, with devices embodying the main features of the present invention shown applied thereto;

Fig. 2 is an enlarged vertical section thereof taken approximately on the line 2—2 of Fig. 1;

Fig. 3 is a side elevation of the structure shown in Fig. 2;

Fig. 4 is a perspective view of the various parts of the connector shown in separated relationship;

Figs. 5 and 6 are views, respectively similar to Figs. 2 and 3, illustrating a modified form of the invention in which a bolt hook is used for

connecting the device to the actuating mechanism; and

Figs. 7 and 8 are similar views of another modified form in which an eye bolt is used for connecting the device to the actuating mechanism.

Referring now more particularly to Figs. 1 to 4 of the drawings, the harness frame is of a usual type having horizontal top and bottom rails 10, connected by vertical end members 11. Heddle supporting rods 12 are mounted in the frame in any preferred manner, and the heddles 13 are mounted thereon.

Connectors embodying the main features of the invention are shown mounted on the upper and lower rails 12 of the heddle frame, two of each being shown at the top and bottom respectively. It will, of course, be understood that in heavy installations a larger number may be employed if desired.

Each connector comprises side members 14, punched and formed from strip or sheet metal, and disposed one on each side of the rail 10.

There is also provided a saddle piece 15 which bears against the inner surface of the rail 10 on which the connector is mounted, and the side members 14 are each provided with an intumed lip 16 having a slot 17, which slots are engaged by complementary lugs 18 carried on the sides of the saddle member 15. The slots 17 are disposed in the inwardly bent portions 16 so that the lugs 18 provided on the saddle member do not project beyond the outer faces of the side members when the device is assembled. (See Fig. 2.)

Each of the side members 14 is also bent inwardly as at 19 and thence extends in a plane parallel to the side faces of the members 14, thereby to provide tongue portions 20 of the side members disposed in close proximity to each other. Each of the tongue portions 20 of the respective side members 14 is provided with a slot 21 whereby said tongue portions 20 are adapted to be engaged by the recessed portion 22 of a cylindrical bearing block 23, which serves to lock the said tongue portions 20 of said side members 14 when the device is assembled.

On at least one of the end faces of the bearing block 23 there is provided a transverse groove 54, and also each of the tongue portions 20, adjacent the outer ends of the slot 21, is provided with transverse grooves 55. When the cylindrical block 23 is in position for locking the tongue portions 20, a cotter pin 56 is inserted in the grooves 54 and 55 whereby the block will

be prevented from becoming disengaged from the tongue portions 20.

The cylindrical block 23 is engaged by a hook member 24, the shank 25 of which is provided with laterally extending arms 26, so that the straps (not shown), which are customarily used for actuating the loom harness, can be attached thereto in the usual manner.

When it is desired to dismantle the connector from the heddle frame, it is necessary merely to remove the hook member 24 from engagement with the bearing block 23. The cotter pin 56 is then removed, after which the block 23 may be slid to free the recessed portion 22 thereof from engagement with the ends of the tongue portions 20 of the side members 14. The side members 14 may then be swung outwardly, after which they may be readily removed by disengaging the lugs 18 of the saddle member 15 from the slot 17 in the inwardly extending portions 16 of the side members 14. When it is desired to replace the connector on the heddle frame, the operation is reversed.

By the foregoing arrangement, there is provided a form of connector for use in loom harness which is so constructed and arranged that wear on the various parts thereof is reduced to a minimum, it being noted that the saddle member 15 provides a large bearing surface where it engages the inner edge of the rail 10 of the heddle frame, and the cylindrical bearing block 23 which not only functions to lock the projecting portions of the side members to each other but also serves as a bearing for the hook member 24 by means of which the actuating strap is attached.

In Figs. 5 and 6 of the drawings there is shown a modified form of the invention by means of which that type of actuating mechanism employing a hook bolt may be connected to the heddle frame. The construction and arrangement there shown is in many particulars similar to that shown in Figs. 1 to 4 of the drawings. The saddle member 15 is identical with that shown in Figs. 1 to 4 of the drawings, and functions in the same manner. However, the side members 14^a in this instance have their tongue portions 20^a separated from each other, and said tongue portions are provided with apertures for the mounting of a sleeve member 34 which passes therethrough and which is held in place by a bolt 35 threaded in the interior of said sleeve member. The sleeve member 34 serves to support a member 33 having a portion 40 disposed between the tongue portions 20^a of the side members 14^a. The member 33 which is thus secured in place is provided with extending parallel lugs 36 between which a pin 37 extends. The pin 37 is engaged by the hook portion 38 of a hook bolt 39 which is connected to the harness actuating mechanism in the usual manner.

In Figs. 7 and 8 of the drawings there is shown another modified form of the invention in which the sleeve member 34 forms a bearing for the eye portion 44 of an eye bolt 45 which is also connected to the loom harness actuating mechanism in the usual manner. Here again the saddle member 15 is identical in construction and purpose with that shown in Figs. 1 to 4 of the drawings, and the side members 14^a are identical with those shown in Figs. 5 and 6 of the drawings. The sleeve member 34 extends through the apertures in the tongue portions 20^a and the side members 14^a as in the arrangement shown in Figs. 5 and 6, and is secured in place therein by the bolt member 35 in the same manner.

I claim:

1. A loom harness connector comprising a device mounted on the rail of a heddle frame comprising side members engaging the side faces of the heddle frame rail, and a saddle member shaped complementary to and engaging the inner edge surface of the heddle frame rail, said saddle member being in detachable engagement with the inner end portions of the side members, said side members having projecting portions at their outer ends, and means for detachably securing said outer end portions to the harness actuating mechanism.

2. A loom harness connector comprising a device mounted on the rail of a heddle frame comprising side members engaging the side faces of the heddle frame rail, and a saddle member shaped complementary to and engaging the inner edge surface of the heddle frame rail, said saddle member being in detachable engagement with the inner end portions of the side members, said side members having projecting portions at their outer ends, and means for detachably securing said outer end portions to each other.

3. A loom harness connector comprising a device mounted on the rail of a heddle frame comprising side members engaging the side faces of the heddle frame rail, and a saddle member shaped complementary to and engaging the inner edge surface of the heddle frame rail, said saddle member being in detachable engagement with the inner end portions of the side members, said side members having projecting portions at their outer ends, and means for securing said outer end portions to each other and for attaching said end portions to the harness actuating mechanism.

4. A loom harness connector comprising a device mounted on the rail of a heddle frame comprising side members engaging the side faces of the heddle frame rail, and a saddle member shaped complementary to and engaging the inner edge surface of the heddle frame rail, said saddle member having lugs engaging slots in inner end portions of the side members, said side members having projecting portions at their outer ends, and means for securing said outer end portions to each other and for attaching said end portions to the harness actuating mechanism.

5. A loom harness connector comprising a device mounted on the rail of a heddle frame comprising side members engaging the side faces of the heddle frame rail, and a saddle member shaped complementary to and engaging the inner edge surface of the heddle frame rail, said saddle member being in detachable engagement with the inner end portions of the side members, said side members having projecting portions at their outer ends, and means for securing said outer end portions to each other comprising a slitted block member slidably mounted in slots in said outer end portions.

6. A loom harness connector comprising a device mounted on the rail of a heddle frame comprising side members engaging the side faces of the heddle frame rail, and a saddle member shaped complementary to and engaging the inner edge surface of the heddle frame rail, said saddle member having lugs engaging slots in inner end portions of the side members, said side members having projecting portions at their outer ends, and means for securing said outer end portions to each other comprising a slitted block member slidably mounted in slots in said outer end portions.

7. A loom harness connector comprising a de-

vice mounted on the rail of a heddle frame comprising side members engaging the side faces of the heddle frame rail, and a saddle member shaped complementary to and engaging the inner edge surface of the heddle frame rail, said saddle member having lugs engaging slots in inner end portions of the side members, said side members having projecting portions at their outer ends, means for securing said outer end portions to each other comprising a slitted cylindrical block member slidably mounted in slots in said outer end portions, and a strap hook member having its hook portion engaging said block member and shaped complementary thereto.

8. A loom harness connector comprising a de- 15

vice mounted on the rail of a heddle frame comprising side members engaging the side faces of the heddle frame rail, and a saddle member shaped complementary to and engaging the inner edge surface of the heddle frame rail, said saddle member being in detachable engagement with the inner end portions of the side members, said side members having projecting portions at their outer ends, means for securing said outer end portions to each other comprising a slitted cylindrical block member slidably mounted in slots in said outer end portions, and a strap hook member having its hook portion engaging said block member and shaped complementary thereto.

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